

WHAT IS CLAIMED IS:

1. A sheet stack ejecting apparatus comprising:

an ejecting device for carrying and ejecting a sheet stack, the ejecting device holding a sheet stack with two rotating members to carry the sheet stack;

an open-close mechanism for switching states of the two rotating members by shifting at least one of the two rotating members to adjust pressing force, the open-close mechanism switching between a contact and pressing state and a pressing-force weakened state; and

a controller for controlling the open-close mechanism that makes the two rotating members a contact and pressing state by the open-close mechanism when a sheet stack is ejected, and makes the two rotating members a pressing-force weakened state before a back end of the sheet stack escapes from nips of the two rotating members.

2. A sheet stack ejecting apparatus according to claim 1, wherein the two rotating members are separated when the open-close mechanism makes the two rotating members a pressing-force weakened state.

3. A sheet stack ejecting apparatus according to claim 2, wherein the controller determines timing to separate the two rotating members by using at least one of following factors: paper size; number of sheets of paper; thickness of a sheet stack; and weight of a sheet stack.

4. A sheet stack ejecting apparatus according to claim 3, wherein the controller separates the two rotating members before a back end of a sheet of paper escapes from nips of the two rotating members only in case paper size is a predetermined size or smaller.

5. A sheet stack ejecting apparatus according to claim 3, wherein the controller separates the two rotating members with earlier timing as number of sheets is larger.

6. A sheet stack ejecting apparatus according to claim 5, wherein the controller separates the two rotating members before a back end of a sheet of paper escapes from nips of the two rotating members only in case number of sheets is predetermined number or more.

7. A sheet stack ejecting apparatus according to claim 1, wherein the open-close mechanism comprises:

a moving member that moves along with opening/closing of the two rotating members; and

an elastic member provided between one of the two rotating members and the moving member.

8. An image forming apparatus comprising:

an image forming section for forming an image on a sheet of paper;

a processing tray for storing sheets of paper on which images have been formed by the image forming section and making a sheet stack; and

a sheet stack ejecting apparatus for carrying and ejecting a sheet stack taken out from the processing tray, the sheet stack ejecting apparatus holding a sheet stack with two rotating members to carry the sheet stack,

wherein the sheet stack ejecting apparatus comprises:

an ejecting device for carrying and ejecting a sheet stack, the ejecting device holding a sheet stack with two rotating members to carry the sheet stack;

an open-close mechanism for switching states of the two rotating members by shifting at least one of the two rotating members to adjust pressing force, the open-close mechanism switching between a contact and pressing state and a pressing-force weakened state; and

a controller for controlling the open-close mechanism that makes the two rotating members a contact and pressing state by the open-close mechanism when a sheet stack is ejected, and makes the two rotating members a pressing-force weakened state before a back end of the sheet stack escapes from nips of the two rotating members.

9. An image forming apparatus according to claim 8, wherein the two rotating members are separated when the open-close mechanism makes the two rotating members a

pressing-force weakened state.

10. An image forming apparatus according to claim 9, wherein the controller determines timing to separate the two rotating members by using at least one of following factors: paper size; number of sheets of paper; thickness of a sheet stack; and weight of a sheet stack.

11. An image forming apparatus according to claim 10, wherein the controller separates the two rotating members before a back end of a sheet of paper escapes from nips of the two rotating members only in case paper size is a predetermined size or smaller.

12. An image forming apparatus according to claim 10, wherein the controller separates the two rotating members with earlier timing as number of sheets is larger.

13. An image forming apparatus according to claim 12, wherein the controller separates the two rotating members before a back end of a sheet of paper escapes from nips of the two rotating members only in case number of sheets is predetermined number or more.

14. A sheet stack processing apparatus comprising:  
a processing tray for storing plural sheets of paper in order and making a sheet stack;

an ejecting device for carrying and ejecting a sheet stack piled on the processing tray, the ejecting device holding a sheet stack with two rotating members to carry the sheet stack;

a stack processing device for conducting stack processing to a sheet stack piled on the processing tray before the sheet stack is ejected by the ejecting device;

an open-close mechanism for switching states of the two rotating members by shifting at least one of the two rotating members to adjust pressing force, the open-close mechanism switching between a contact and pressing state and a pressing-force weakened state; and

a controller for controlling the open-close mechanism that makes the two rotating members a contact and pressing state by the open-close mechanism when a sheet stack is ejected, and makes the two rotating members a pressing-force weakened state before a back end of the sheet stack escapes from nips of the two rotating members.

15. A sheet stack processing apparatus according to claim 14, wherein the two rotating members are separated when the open-close mechanism makes the two rotating members a pressing-force weakened state.

16. A sheet stack processing apparatus according to claim 15, wherein the controller determines timing to separate the two rotating members by using at least one of following

factors: paper size; number of sheets of paper; thickness of a sheet stack; and weight of a sheet stack.

17. A sheet stack processing apparatus according to claim 16, wherein the controller separates the two rotating members before a back end of a sheet of paper escapes from nips of the two rotating members only in case paper size is a predetermined size or smaller.

18. A sheet stack processing apparatus according to claim 16, wherein the controller separates the two rotating members with earlier timing as number of sheets is larger.

19. A sheet stack processing apparatus according to claim 18, wherein the controller separates the two rotating members before a back end of a sheet of paper escapes from nips of the two rotating members only in case number of sheets is predetermined number or more.

20. A sheet stack processing apparatus according to claim 14, wherein the stack processing device staples a sheet stack.